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EXAMINER	
LAMBRECHT, CHRISTOPHER M	
ART UNIT	**PAPER NUMBER**
2623	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/726,867	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Christopher M. Lambrecht	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12 September 2006 have been fully considered but they are not persuasive.

On page 14 of the above-noted reply, Applicant argues (emphasis in original):

> [T]he cited portions of Maissel do not teach or suggest that the controlling unit analyzes the user's taste and based on the analysis, modifies a weight of each parameter of the selection information to optimize the selection information. Maissel merely teaches that the viewer preference profile may contain information on preference strength and that the program schedule information can be customized in accordance with one or more viewer preference profiles. Therefore, Maissel does not teach or suggest modifying the preference strength and using the modified preference strength to optimize the selection information.

The examiner maintains Maissel does disclose modifying the preference strength and using the modified preference strength to optimize the selection information.

Maissel discloses "customiz[ing] the program schedule information . . . in accordance with one or more viewer preference profiles . . . to output a program guide comprising the customized program schedule information . . . ." Page 20, para. 3. The program guide corresponds to "selection information"; to customize the program guide is to "optimize" it. Thus, Maissel discloses using the viewer preference profile "to optimize the selection information" within the meaning of claim 1.

Maissel also discloses that a viewer preference profile includes "information on preference strength, that is, on how strongly a certain program or type of program is preferred by the viewer." Page 19, para. 1. Preference strength thus constitutes a weight associated with each type of programming. Further, preference strength "may reflect the

number of times that the program was viewed in a given time period" (*id.*) and is therefore modified based on a user's choice to replay particular content. This choice is a manifestation of the user's "taste." Thus, monitoring the frequency of the choice amounts to analyzing the user's tastes.

Accordingly, Maissel discloses the claimed subject matter as previously set forth; claims 1-18 are not patentable for the reasons Applicant submits.

Applicant additionally argues that the combination of references relied upon in the rejection "is improper because it lacks motivation." (Remarks, pages 14-15.) The examiner submits, however, that the statement of the rejections cites facts found in the prior art that would have motivated the combination.

Absent further arguments to the contrary, the examiner maintains that claims 1-18 are unpatentable as set forth in the prior office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 3, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,614,987 ("Ismail") in view of International Patent Application Publication

No. WO 99/01984 ("Maissel") and further in view of U.S. Patent No. 6,581,207 ("Sumita"), all of record.

Regarding claims 1 and 10, Ismail discloses a broadcast system and associated reception apparatus [100, fig. 1; see col. 4, lines 40-44] comprising:

a broadcast station (see digital satellite system and CATV system, column 4, lines 49-54) for broadcasting digital content (see digital encoding, column 4, lines 40-47) with attribute information (attribute information 107), indicating an attribute thereof (i.e., attributive information is related to said digital contents, column 3, lines 43-48); and

a plurality of reception apparatuses [100, fig. 1] (where a broadcast system includes a distribution system coupled to at least two reception/receiving apparatuses) having

reception means (column 4, lines 40-41) for digital contents (see digital encoding, column 4, lines 40-47) and said attribute information (attribute information 107, column 3, lines 33-61), broadcast by the broadcast station (see digital satellite system and CATV system, column 4, lines 49-54),

a recording medium (storage device 106) for the recording received digital contents and the received attribute information (see storage of program data 105 and attribute information 107 in storage device 106, fig. 1, and column 4, lines 7-8),

output means (monitor 108) for outputting the received digital contents (column 4, lines 35-38), and

selection means (preference agent 110 and recording manager 112, fig. 1) for allowing a user to select the digital contents via a filtering process (specification of programs to record by specification of particular attributes of the program by the user, col. 3, ll. 25-30) by comparing selection information indicating user's preferences (preference database 116, fig. 1) with the attribute information (107) assigned to digital contents (column 4, lines 13-31);

said plurality of reception apparatuses store said digital contents that match said user preferences even if said user does not reserve said digital contents (col. 2, ll. 1-8).

Although Ismail discloses receiving digital contents (column 4, lines 35-38), attribute information, (107) and selection information (116), and further discloses a means of selecting content (column 8, lines 22-40), Ismail fails to specifically disclose: user activation/deactivation of the filtering process at any time; modifying EPG program titles in accordance with user selection; attribute information expressed as an n-dimensional vector A comprising attribute items as elements indicative of attribute intensities for content; said selection information expressed as an n-dimensional vector S comprising user's taste items as elements indicative of taste intensities; item types and orders for said attribute and said selection information correspond to those for attribute vector A and selection vector S; and said reception apparatus's selection means performs an inner product operation between attribute vector A attached to a broadcast content, and selection vector S and determines

whether to select that digital content based on an inner product result, as recited in the claims.

In an analogous art, however, Sumita discloses a system in which attribute information expressed as an n-dimensional vector (vector K, col. 7, line 67 – col. 8, line 1; where "n" is unspecified, "n-dimensional vector" is met by any vector) containing attribute items (keywords) as elements each indicative of attribute intensities (frequency of use) for content (where the keywords are selected so as to be descriptive of programming content, col. 6, lines 57-64 and col. 7, lines 15-23); said selection information expressed as an n-dimensional vector (vector Pi, col. 7, lines 65-66) comprising user's taste items (i.e., user profile information, column 7, lines 54-58) as elements indicative of taste intensities (weighted according to frequency of use, column 7, lines 65-66); item types and orders for said attribute and said selection information correspond to those for the attribute vector (vector K) and the selection vector (vector Pi); and said reception apparatus's selection means performs an inner product operation between attribute vector attached to a broadcast content, and selection vector (eq. (1), column 7, line 63 and column 8, lines 1-3), and determines whether to select that content based on an inner product result (see fig. 12, and column 7, lines 50-59), for the purpose of computing the similarity between incoming content attribute information and user's profile information (column 7, lines 50-59).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Ismail to include the attribute information, selection information, item types and orders, performing an inner product, and determining whether

to select content based on said inner product result as taught by Sumita, for the computing the similarity between incoming content attribute information and user's profile information in a broadcast recording system.

The combined teachings of Ismail and Sumita fail to disclose user activation/deactivation of the filtering process and differentiating the titles of programs matching said users selection data when displaying the EPG, as claimed; and wherein said controlling unit computes said attribute information of the digital contents replayed by the user, analyzes the user's taste and based on the analysis, modifies a weight of each parameter of said selection information to optimize the selection information for said user.

Also in an analogous art, however, Maissel discloses a filtering process for allowing a user to select program contents that is automatically activated by a controller (intelligent agent 130) [see p. 18, ¶¶2-3] and permits user activation or deactivation at any time (*i.e.*, turn on/off collection of preference information and/or delivery alerts [see p. 19, ¶¶2-3]). Maissel further discloses that while displaying the EPG, said reception unit modifies EPG program titles in accordance with the user's selection such that when a program matches the selection information (viewer profile) and the attribute information (program schedule information), the controlling unit displays the title information indicating the program title in a different state from other program titles [see fig. 7 and pp. 20-21 and 27-28]. Additionally, the controlling unit computes said attribute information of the digital contents replayed by the user (i.e., programs viewed more than once), analyzes the user's taste and based on the analysis, modifies a weight of each parameter of said selection information to optimize the

selection information for said user (page 19 para. 1, page 20 para. 3, page 29 para. 3). Further, Maissel discloses that the disclosed filtering system enables presentation of an electronic program guide that is customized according to the preferences of one or more viewers [see p. 20, ¶3].

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reception apparatus of Ismail and Sumita such that the filtering process is activated or deactivated at any time by the user and, when displaying the EPG, the titles of programs whose descriptive attributes match the preferences or selections of the user are displayed differently from other program titles as taught by Maissel, for the benefit of providing the user with a programming guide that is tailored to his or her preferences.

As to claims 3 and 12, the combined teachings of Ismail, Sumita, and Maissel disclose where said selection information's vector (Sumita, vector Pi) is found from a vector of attribute information (Sumita, vector K) attached to a plurality of digital contents (Ismail, see digital encoding, column 4, lines 40-47) selected by the user (Sumita, column 4, lines 62-67).

2. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail, Sumita, and Maissel as applied to claims 1 and 10 above, further in view of Dunlop (of record) and further in view Aggarwal (of record).

Regarding claims 2 and 11, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcast system and corresponding reception apparatus (Ismail, i.e., a system for

receiving broadcasts, recording system 100, fig. 1, and column 4, lines 40-44) wherein the selection means of each of said plurality of reception apparatuses selection means find a selection value (Ismail, preference agent 110 and recording manager 112, fig. 1) based on the following equation and selects the digital content based on a size of the selection value (Sumita, column 7, lines 50-58):

$P = (A \cdot S) / |A| |S|$ (see equation (1), Sumita, column 7, line 63).

Ismail, Cragun and Sumita fail to explicitly state the assumptions:

$A \cdot S = \sum_{k=1 \text{ to } n} a_k S_k$ (1)

$|A| = \text{sqrt}(\sum_{k=1 \text{ to } n} a_k^2)$ (2)

$|S| = \text{sqrt}(\sum_{k=1 \text{ to } n} S_k^2)$ (3)

in which neither A nor S is a zero vector. (4)

In an analogous art, however, Dunlop discloses assumptions (1), (2), and (3) (pp. 139-140), for the purpose of defining equations representing the scalar (dot) product of two or more vectors and the magnitude (size) of a vector.

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined teachings of Ismail, Sumita, and Maissel to include assumptions (1), (2), and (3), shown above, as taught by Dunlop, for the

purpose of defining equations representing the scalar product of two or more vectors and the magnitude of a vector for performing calculations in a broadcast recording system.

In addition, in an analogous art, Aggarwal discloses assumption (4) (col. 4, lines 47-52, i.e., that vectors in a vector product operation are non-zero), for the purpose of obtaining a meaningful, non-zero result.

Therefore, it would also have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined teachings of Ismail, Sumita, Maissel, and Dunlop to include assumption (4), shown above, as taught by Aggarwal, for the purpose of obtaining a meaningful, non-zero result when performing calculations in a broadcast recording system.

3. Claims 4-6 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail, Sumita, and Maissel as applied to claims 3 and 12 above, and further in view of Hawkins (of record).

Regarding claims 4 and 13, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system comprising a selection information vector (Sumita, vector Pi, column 7, lines 65-66) and digital contents (Ismail, see digital encoding, column 4, lines 40-47) selected by the user (Sumita, column 4, lines 62-67), however, they fail to specifically disclose wherein said selection vector is found according to the following equation:

$$S = 1/M \sum_{k=1 \text{ to } M} A_k$$

where M is assumed to be a number of contents selected by the user and an attribute vector for the Kth content selected by the user is assumed to be: $A_k=(a_{1k}, a_{2k}, a_{3k}, \ldots, a_{nk})$, as recited in the claims.

In an analogous art, however, Hawkins discloses a selection information vector (vector map representing user selected preferences) is found by averaging vectors A for attribute information (corresponds to the equation recited in the claim, where summing a set 1 to M of vectors and dividing the vector sum by M will produce a vector representing an average of the vectors in the set 1 to M)(col. 11, lines 5-15), for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user (col. 11, lines 15-18).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Ismail, Sumita, and Maissel to include the formula as recited in the claim which, generates an average of vectors A_k, as taught by Hawkins, for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user in a broadcast recording system.

Regarding claims 5 and 14, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system comprising a selection information vector (Sumita, vector Pi, column 7, lines 65-66) attached to a plurality of contents reproduced by a user for a specified time (Sumita, column 4, lines 62-67) and digital contents (Ismail, see digital encoding, column 4, lines 40-47), and the vector $A_k = (a_{1k}, a_{2k}, a_{3k}, \ldots, a_{nk})$. However they fail to

specifically disclose wherein said selection information vector is found according to the equation:

$$S = \frac{1}{M} \sum_{k=L-M+1}^{L} A_k$$

where M is assumed to be a number of windows for finding a vector S, L is assumed to be a start point for selecting the plurality of digital contents for finding the vector S.

The formula recited in the claim generates an average of M vectors A_k taken from a set of vectors A_k of size L, corresponding to the teaching of Hawkins who discloses a selection information vector (vector map representing user selected preferences) is found by averaging vectors A for attribute information over a specified period of time (an operation which requires taking some number of previous selection preferences vectors from a set encompassing the entirety of user selection preferences vectors, and generating an average selection vector based on the selected subset of user preference selections vectors) (col. 11, lines 5-15), for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user (col. 11, lines 15-18).

Thus, it would have been obvious to one of ordinary skill in the art to modify the system of Ismail, Sumita, and Maissel to include the formula as recited in the claim which, generates an average of M vectors A_k taken from a set of vectors A_k of size L, as taught by Hawkins, for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user in a broadcast recording system.

As to claims 6 and 15, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system comprising a selection information vector (Sumita, vector Pi, column 7, lines 65-66) attached to a plurality of contents reproduced by the user for a specified time (Sumita, column 4, lines 62-67) and digital contents (Ismail, see digital encoding, column 4, lines 40-47), however they fail to specifically disclose wherein said selection information vector is found by averaging vectors A for attribute information over a specified period of time, as recited in the claims.

Hawkins discloses a selection information vector (vector map representing user selected preferences) is found by averaging vectors A for attribute information over a specified period of time (col. 11, lines 5-15), for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user (col. 11, lines 15-18).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ismail, Sumita, and Maissel to include said selection information vector is found by averaging vectors A for attribute information over a specified period of time, as taught by Hawkins, for the purpose of enabling the terminal to automatically perform a search for similar items and recommend them to the user.

4. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail, Sumita, and Maissel as applied to claims 3 and 12 above, further in view of Eldering (of record), and further in view of Inoue (of record).

Regarding claims 7 and 16, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system comprising a selection information vector (Sumita, vector Pi, column 7, lines 65-66) and attribute information attached to the plurality of digital contents (Ismail, see digital encoding, column 4, lines 40-47 and column 3, lines 43-48), however they fail to specifically disclose wherein said selection information vector is found by averaging vectors A for attribute information and wherein attribute information is attached to a plurality of contents reserved by the user, as recited in the claims.

In an analogous art, however, Eldering discloses a system wherein said selection information vector is found by averaging vectors for attribute information (column 4, lines 42-51), for the purpose of describing demographic information for a household, rather than a single subscriber (column 4, lines 42-51).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined system of Ismail, Sumita, and Maissel to include said selection information vector is found by averaging vectors for attribute information, as taught by Eldering, for the purpose of for the purpose of being able to convey demographic information for an entire household, rather than a single subscriber in a user profile feedback system.

Ismail, Sumita, Maissel, and Eldering are silent with respect attribute information is attached to a plurality of contents reserved by a user, as recited in the claims. Inoue, however, discloses a system wherein attribute information (service additional information) is

attached to a plurality of contents reserved by a user (column 17, lines 37-47), for the purpose of using the information to judge whether or not to reserve the program.

Thus it also would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined system of Ismail, Sumita, Maissel, and Eldering to include attribute information attached to a plurality of contents reserved by the user, as taught by Inoue, for the purpose of using the attribute information to judge whether or not to reserve the program based on user preferences in a content receiving system.

5. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail, Sumita, and Maissel as applied to claims 3 and 12 above, further in view of Russel-Falla (of record) and still further in view of Inoue.

Regarding claims 8 and 17, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system comprising a selection information vector (Sumita, vector Pi, column 7, lines 65-66) attached to the plurality of contents reproduced by the user for a specified time (Sumita, column 4, lines 62-67) and digital contents (Ismail, see digital encoding, column 4, lines 40-47), however they fail to specifically disclose averaging vectors for attribute information for contents reserved by a user, assigning a weight to each average, and combining these weights.

In an analogous art, however, Russell-Falla discloses a system wherein a selection vector is found according to:

$$\text{rating} = (n \sum x_p w_p) / c$$

1 to p

where c is the number of contents selected by a user; and x_p w_p is an attribute vector, n is a weight assigned to the average (scale factor, col. 5, lines 28-29), and combining these weights (summing the weighted or scaled averages), for the purpose of rating content relative to a selected characteristic in a broadcast recording system.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Ismail, Sumita, and Maissel to solve for the selection vector according to the disclosure of Russell-Falla, for the purpose of rating content relative to a selected characteristic in a broadcast recording system.

The combined teachings of Ismail, Sumita, Maissel, and Russel-Falla fail to teach attaching attribute information to the contents reserved by the user. But Inoue discloses a system wherein attribute information (service additional information) is attached to a plurality of contents reserved by a user (column 17, lines 37-47), for the purpose of using the information to judge whether or not to reserve the program.

Therefore it would also have been obvious to one of ordinary skill in the art at the time of invention to modify the combined system of Ismail, Sumita, Maissel, and Russell-Falla to include attribute information attached to a plurality of contents reserved by the user, as taught by Inoue, for the purpose of using the attribute information to judge whether or not to reserve the program based on user preferences in a content receiving system.

6. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail, Sumita, and Maissel as applied to claims 1 and 10 above, and further in view of Eldering.

Regarding claims 9 and 18, the combined teachings of Ismail, Sumita, and Maissel disclose a broadcasting system wherein the selection means of each of said plurality of reception apparatuses (Ismail, column 4, lines 40-41) selects the digital content (Ismail, see digital encoding, column 4, lines 40-47) based on a vector of the selection information (Sumita, user profile information, column 7, lines 54-58 and vector Pi, column 7, lines 65-66). But they fail to specifically disclose said selection information corresponding to a plurality of users, as recited in the claims.

Eldering discloses selection information corresponding to a plurality of users (column 4, lines 42-51), for the purpose of indicating which content a household will be interested in (column 2, lines 23-32).

Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined system of Ismail, Sumita, and Maissel to include said selection information corresponding to a plurality of users, as taught by Eldering, for the purpose of indicating the type of content a household as a whole will be interested in, in a user profile feedback system.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Lambrecht whose telephone number is (571) 272-7297. The examiner can normally be reached on Mon-Fri, 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M. Lambrecht
Examiner
Art Unit 2623

/cml/

JOHN MILLER
SUPERVISORY PATENT EXAMINER
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